THE ABATTOIR AS AN EPIDEMIOLOGICAL TOOL

Mukayat D. Brotowidjoyo *)

SUMMARY

The usefulness of abattoirs as tools in the study of epidemiology of diseases in livestock in Indonesia is discussed and suggested.

INTRODUCTION

In the developed countries the epidemiology of infectious diseases, especially those which are common, severe and economically important is well researched. Detailed information on the distribution, prevalence, incidence, and dynamics of specific diseases are often well understood. In Indonesia the epidemiology of such diseases is much less known.

It is the purpose of this paper to present ideas and suggestions on the use of abattoirs for collection of data on the epidemiology of the common diseases in livestock in Indonesia.

FARMS VISITS v.s. ABATTOIR STUDIES

Basic field data is a prerequisite for advances in most epidemiological studies of infectious diseases. To obtain the data, skilled and unskilled manpower, adequate funds, and good organisation are needed. In Indonesia, at the present time, manpower is a lesser problems, while expense is always one of many factors limiting such work. Visits to villages (farmers) will require more money than abattoir visits to obtain similar data. Visits to villages will not always produce data as expected, because most Indonesian farmers may not able to give all the information needed.

ACCURATE IDENTIFICATION

Because of types of animal husbandry in Indonesia, accurate identification of individual animal is extremely important. For this, good co-operation with brokers/butchers and meat inspectors are needed. In contrast to information obtained from visits to villages, collection of data in abattoirs may face troubles in identification of animals and their onwners. In Indonesia, it is not usual to brand animals, neither by using tail-tags nor back-tags as commonly found in America and Australia. It is very rare, for one farmer/broker to send animals for slaughter in a single group. However, this difficulty may be overcome by applying a 'slaughter certificate' system—the certificates being issued by local administrtors. Trace back method may not be able to be carried out in certain areas in Indonesia, but, in general, if the epidemiological studies are done at regency level, it is believed that an abattoir study will fulfill the goals. Abattoir study is economical, easier to carry out, and the data obtained are fairly reliable.

TYPE OF STUDY

Basic data on the epidemiology of diseases in livestock, which are obtained from visits to farmers as well as from abattoir studies, may be obtained through three different techniques; viz. simple observations (e.g. age, genital lesions), taking specimens or combination of both techniques.

One of many disadvantages of visits to villages is that we cannot, in most cases, take samples from suspected animals, except for example—skin scrapings, blood, feces or others excretions or secretions. On the other hand, abattoir studies give us a lot of possibilities to take samples from individual animal killed. The epidemiology of a number of diseases can be assessed by using data obtained by observations alone. Abattoir studies may give us data many of which are confirmative, for example; pleural adhesion in Contagious Bovine Pleuro Pneumonia, helminthosis (e.g. paramphistomiasis, facioloasis), and simply by observations. Taking samples may then be needed for furthers studies. Geographical and seasonal distributions, morbidity (prevalence and incidence) of many diseases can be assessed without taking samples. However, other diseases, for example; bovine 'cancer eye' or t.b. often need samples taken from the affected tissues.

EDIBLE ORGANS v.s. OFFALS

In Indonesia, food of animal origin is expensive. Almost all parts of the animal body killed in the abattoirs are useful and sold as food. Therefore, it is suggested that for the sake of complete and accurate results, we must spend some money for 'compensation' to the owners/butchers. Of course, this compensation may not be necessary for collecting samples for certain diseases.

---

*) Staf Pengajar Bagian Parasitologi Fakultas Kedokteran Hewan, Universitas Gadjah Mada.

INFORMATION OBTAINED

Depending upon the objectives and level of the study, abattoir studies may produce valuable information mostly at regency level, and probably also at provincial level. This is because, at present there is no village abattoir.

Epidemiological studies are related to climate, soil and topography. Therefore, data on climatic, geographic, and topographic factors may also be useful in some studies. Nutritional conditions on farms of origin of the animals, animals movements, etc. should be recorded and must also be considered in the assessment of the epidemiology of some diseases. In the study of the epidemiology of certain diseases, other information such as sex, age, carcass weight, occurrence of lesions of individual animals may be needed. All of this information can be obtained from abattoir studies.

CONCLUSIONS AND SUGGESTIONS

It is obvious, that the abattoir can be used as a tool in the study of the epidemiology of diseases in livestock. Data obtained from abattoir studies, in some instances, are more complete, and much less expensive to obtain than similar data obtained through farm visits.

The epidemiology of the following diseases in livestock in Indonesia may be suggested to be done through abattoir studies, viz. bull infertility, beef udder study, cow infertility, leptospirosis, bovine arthropathies, helminthosis, blood parasites, etc.

ACKNOWLEDGEMENTS

Dr. P.W. LADDS, Deparment of Tropical Veterinary Science, James Cook University, Townsville, kindly read through the manuscript of this paper and offered useful suggestions, for which I am grateful.

RINGKASAN

Kegunaan rumah potong sebagai prasarana dalam penelitian epidemiologi penyakit-penyakit ternak potong di Indonesia dibahas dan dianjurkan.

1) clioxanida (PARKE-DAVIS): 4' -chloro -2- hidroxy -3,5 -diiodo-benzanilida acetat.
2) Rafoxanida (Merck-Sharp & Dohme): 3' -chloro -4'-(p -chlorophenoxy) -3,5 -diiodosalicylanilida.

*) Staf Pengajar Bagian Parasitologi FKH-UGM.